

## Missouri Department of Natural Resources

# Total Maximum Daily Load Information Sheet

## Bynum Creek

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### Waterbody Segment at a Glance:

**County:** Callaway  
**Nearby Cities:** Auxvasse, Kingdom City  
**Length of impairment:** 0.3 miles  
**Pollutant:** Non-Volatile Suspended Solids (NVSS)  
**Source:** Stone quarry

**Propose to change the pollutant from sediment to NVSS on the 2002 303(d) list**

**TMDL Priority Ranking:** Low



State map showing location of watershed

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### Description of the Problem

#### Beneficial uses of Bynum Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life and Human Health associated with Fish Consumption

#### Use that is impaired

- Protection of Warm Water Aquatic Life

#### Standards that apply

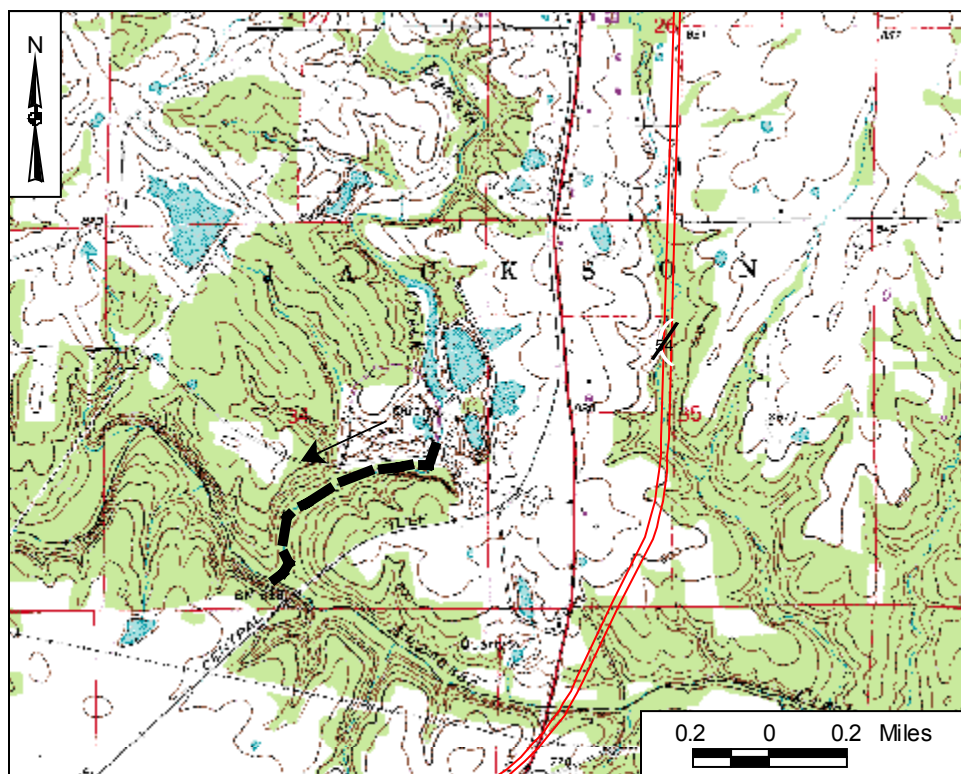
- All waterbodies in Missouri are protected by the *general* criteria (standards) contained in Missouri's WQS, 10 CSR20-7.031(3). These criteria (also called *narrative* criteria) list substances that all waters "shall be free from". The criteria that apply to Bynum Creek are (A), (C) and (G), and they state:
  - (A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses.
  - (C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.
  - (G) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.

Erosion from the operation of a limestone quarry is causing deposition in Bynum Creek of a large range of limestone pieces, from silt-sized particles to boulders. The movement of so much limestone into the stream is causing the development of large gravel bars that change the path of the stream flow. This is causing the stream to wander (meander) more and has accelerated bank erosion. Careful

examination of the aquatic invertebrate animals (like water insects and crayfish) in the stream indicates their habitat is being degraded. The proposed list change from sediment to Non-Volatile Suspended Solids (NVSS) was made to better distinguish between organic solids coming from wastewater treatment plants and the mineral solids (like silt, sand or gravel) coming from soil erosion or erosion of mine waste materials or stockpiles. NVSS are the mineral solids. When these solids get into a stream, they settle onto the bottom and smother natural substrates (materials in the streambed), aquatic invertebrate animals and fish eggs.

The department plans a more detailed investigation of the stream to confirm if and how the stream is being degraded. If this investigation indicates instream problems due to the quarry operation, the quarry's operating permit (issued by the department) will be amended as needed to improve erosion controls.

### Bynum Creek in Callaway County, Missouri



--- Impaired Segment      ← Direction of Flow

#### For more information call or write:

Missouri Department of Natural Resources

Water Pollution Control Program

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